Reactive Chemicals Hazard Investigation Continues; Input Encouraged from CSB Stakeholders

WASHINGTON, DC --- Work is continuing at the CSB on a comprehensive Hazard Investigation of reactive chemical hazards. The investigation is a direct result of the CSB investigation of the April 8, 1998 runaway reaction and subsequent fire at Morton International Chemicals in Paterson, New Jersey.

Approximately 170 reactive chemical incidents over a twenty-year period are included in the investigation.

The objectives of the reactive chemical hazard investigation are to:

(1) Determine the impact of reactive chemical incidents;
(2) Examine how industry, the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) address reactive chemical hazards; and
(3) Analyze the appropriateness of and consider alternatives to industry and OSHA use of the National Fire Protection Association (NFPA) reactivity rating[1] system for reactive hazard management.

The hazard investigation will likely result in recommendations to promote the safe handling of reactive chemicals.

Public Hearing Scheduled

The results of the hazard investigation will be presented in a public hearing in the late summer or early fall of 2001. The purpose of the safety hearing is to communicate CSB findings and conclusions, and to gather input from all interested parties prior to making final recommendations and issuing a Board-approved report. The public safety hearing may include panel discussions of each of the major areas covered in the hazard investigation. The panel speakers will be stakeholders, industry leaders, and recognized experts. There will be an opportunity for public comment.

The exact date and location of the hearing will be announced within the next few months. Announcements about the Reactive Chemicals Hazard Investigation will be disseminated through a number of media, including the CSB Internet News Distribution list. The CSB Internet News Distribution list is a free service providing information about the activities and actions of the CSB. Subscribing to the News list may be done here on the CSB website.

In conducting the hazard investigation, CSB is considering the needs, concerns, and suggestions of stakeholders in the safety of reactive chemicals. The investigation is examining both current and proposed guidance for managing reactive chemical hazards, including company best practices, industry wide guidance, and regulatory requirements.

Regulatory Requirements Examined

As recommended in CSB's Morton Chemical investigation report, OSHA and EPA are participating in CSB's hazard investigation. CSB is particularly interested in understanding both the regulatory requirements, and the other resources or guidance provided by these agencies. The primary regulations that apply in this case are OSHA's PSM (Process Safety Management) and EPA's RMP (Risk Management Program). The strengths and weaknesses of existing regulations will be evaluated in terms of the reactive chemical issue.

OSHA's PSM standard lists reactive chemicals that it considers to be highly hazardous. This list was derived from NFPA Standard 49, which rates instability (terminology changed from "reactivity" to "instability" in the 1996 update) using NFPA Standard 704. CSB intends to review the advantages and disadvantages of the NFPA reactivity ratings for use in developing possible revisions to the PSM standard and, as appropriate, to compare these to alternative technical approaches.

Information for the hazard investigation is being collected from several different sources.

Reactive Chemical Incidents

The search criteria for the CSB investigation focus on incidents where the primary cause is related to chemical reactivity, as defined below:

> *A reactive chemical incident is a sudden event involving an uncontrolled chemical reaction with abrupt and significant increases in temperature, pressure, and/or gas evolution that has the potential to or has caused serious harm to people, property or the environment.*

The scope of the incident search is limited to events that take place at chemical manufacturing or bulk usage locations, including raw material storage through chemical processing to product storage. The search does not include incidents involving transportation, pipelines, laboratories, minerals extraction, mining, explosives manufacturing, pyrotechnic manufacturing, or military uses. For the purposes of the incident search, the definition of a reactive chemical incident is limited to incidents that have caused serious harm. Events involving simple combustion (i.e., rapid reaction of fuel (liquid, vapor, or dust) with oxygen in air) are excluded from the incident search.

Industry Survey of Management Practices

The Morton Investigation Report highlighted the importance of management systems to control reactive chemical hazards. Consequently, another major element of the hazard investigation is an assessment of large, medium, and small companies that store, handle, and process reactive chemicals to learn about current industry management practices. This assessment will be done using a written industry survey, and site visits.

Individuals or organizations with relevant information to contribute to this study may contact the Reactive Chemical Hazards investigation team at reactives@csb.gov.

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